

CLAIMS

5 sub B = 1. Method of drying coated and/or
impregnated objects (1; 5) that comprise a plurality of
regions, in particular fibres, that are each uniformly
5 structured, in particular for drying lacquered wood, in
cases such that a coating agent and/or impregnation
agent (22) applied to the surface of the object (1; 5)
contains a solvent and/or dilution fluid, in particular
10 water, that is to be driven out and/or bound during
drying, and such that the solvent or dilution fluid has
the property of penetrating into the object in the
undried state with the result that the uniformly
structured regions (4) change their position in the
15 object (1; 5) and, after a characteristic period of
time following application of the impregnation or
coating agent (22), alter the surface structure in such
a way as to make secondary treatment of the surface
necessary or desirable,
characterized in that the drying is completed before
20 the characteristic period of time has elapsed, by
irradiating the coated or impregnated surface with
infrared radiation.

2. Method of drying coated and/or
impregnated objects (1; 5), in particular lacquered
wood, in cases such that a coating agent and/or
impregnation agent (22) applied to the surface of the
object (1; 5) includes a component (6), in particular
colouring pigments, with the properties that
its presence in the region of the surface
and/or in the coating (2) ensures the quality of the
coating (2) or impregnation, however
in the undried condition it penetrates into
the object (1; 5) and after a characteristic period of
time following application of the impregnation or
coating agent (22) it is no longer present in
sufficient quantity in the region of the surface and/or
in the coating (2), so that a secondary treatment of
the surface, in particular a secondary lacquering, is
necessary or desirable,
characterized in that the drying is completed
before the characteristic period of time has elapsed,
by irradiating the coated or impregnated surface with
infrared radiation.

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3 Method according to Claim 1 or 2,
characterized in that the infrared radiation comprises
substantial components, which bring about the drying,
in the near infrared, in particular at wavelengths
below 1.0 m.

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4. Method according to Claim 3,
characterized in that the infrared radiation has a
spectral radiation flux density maximum in the near
infrared, in particular at a wavelength below 1.0 m.

5. Method according to Claim 4,
characterized in that the infrared radiation is emitted
as thermal radiation from a radiation emitter (12) that
is heated to temperatures of 2500 K or higher, in
particular 2900 K or higher.

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6. Method according to one of the claims
1-5, characterized in that the drying is completed
within 5 seconds, in particular within 3 seconds, after
the application of the impregnation or coating agent.

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7. Method according to one of the claims
1-6, characterized in that the object (1; 5) being
processed is conveyed continually in a longitudinal

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direction, in the course of which it first passes through an application zone in which the coating and/or impregnation agent (22) is applied, and that the object (1; 5) or more specifically its coated or impregnated longitudinal sections are conveyed into a drying zone in which the coated or impregnated surface is irradiated with the infrared radiation.

8. Method according to Claim 7, characterized in that the object (1; 5) or more specifically its coated or impregnated longitudinal sections enter the drying zone immediately after leaving the application zone or after having partially passed through the application zone.

9. Method according to Claim 8, wherein the application of the impregnation or coating agent (22) in the application zone is brought about by a stream of gas that carries along the impregnation or coating agent (22), which is contained in a reservoir, and deposits it on the surface of the object (1; 5), characterized in that before the stream of gas reaches the reservoir, it is used to cool an infrared-radiation source (11) and/or to cool other components (16, 18, 19) involved in the irradiation in the drying zone,

such as reflectors, radiation filters and/or partitions transparent to radiation.

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10. Employment of an infrared lamp (11) to dry an object (1; 5) coated or impregnated with a coating agent and/or impregnation agent (22), in particular to dry lacquered wood, in cases such that the nature of the coating agent and/or impregnation agent (22) is as described in Claim 1 and/or in Claim 2.

11. Employment according to Claim 10, wherein the infrared lamp (11) is a halogen lamp.

12. Employment according to Claim 10 or 11, wherein the infrared lamp (11) is constructed as a tubular radiator with an incandescent filament (12) that extends linearly within a tube (13) that is transparent to radiation, in particular within a quartz-glass tube.

13. Employment according to Claim 12, wherein the infrared lamp (11) is combined with a reflector element (10) that extends along the tube (13) and in cross section has a groove-like structure,

enclosing back side of the tube in such a way that the infrared radiation is intensified by addition of reflected radiation to the radiation emitted towards the front side.

5 14. Apparatus for coating and/or
impregnating objects, in particular wooden objects,
comprising
 an application chamber (20) for continuously
 applying an impregnation or coating agent,
 a transport mechanism for continuously
10 transporting the objects from the application chamber
 (20) to an irradiation device (10-19) for drying the
 impregnation or coating agent,
 wherein the transport mechanism is so
15 constructed that its speed is adjustable in such a way
 that the object can be conveyed from the application
 chamber (20) into the irradiation device (10-19) and
 thereby dried within less than 5 seconds.